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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,094	08/22/2003	Richard L. Dubay	D398.12-0001	8387
164 7590 04/09/2007 KINNEY & LANGE, P.A. THE KINNEY & LANGE BUILDING 312 SOUTH THIRD STREET MINNEAPOLIS, MN 55415-1002			EXAMINER JOHNSON, MATTHEW A	
			ART UNIT 3682	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/09/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/646,094

Applicant(s)

DUBAY, RICHARD L.

Examiner

Matthew Johnson

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 4, 5, 7-9, 12-14, 16-18 and 20-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5, 7-9, 12-14, 16-18 and 20-26 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/26/2007</u>                                                 | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "moveable die block half" and the "stationary die block half" must be shown or the feature(s) canceled from the claim(s). Additionally, the slide comprising a slot having a first flat surface and extending centrally through the slide at an angle oblique to the rails", must be shown or the feature(s) canceled from the claim(s). As it appears in the drawings (see Figures 4,6,9a, 9b, 11,14) the slot (70) is at an acute angle (positive angle measured in the counter-clockwise direction from a horizontal axis parallel to the rails) relative to the rails (86), while it appears the first flat surface is at an angle oblique to the rails. Additionally, a slot having a first and second flat surface, and a tail having a first and second flat surface must be shown or the feature(s) canceled from the claim(s). These features are not assigned a reference character in the drawings and are not described in the specification. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities:

- Page 8 line 27 reads "slide 12", it appears it should read --slide (26)--
- Page 10 line 22 reads "holder magnet 27", it appears it should read --holder magnet (50)--

The examiner suggests reviewing the specification for other similar errors.

Appropriate correction is required.

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 4 and 20 are objected to because the specification does provide proper antecedent basis for the limitation "wherein the angle between the head and the tail is greater than 130 degrees and less than 160 degrees".

***Claim Objections***

4. Claim 4 is objected to because of the following informalities: the dependency of claim 4 is based off of canceled claim 2. It appears the applicant intended claim 4 to depend off of amended claim 1 and the examiner will examine claim 4 based on this assumption. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 24 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose an oblique angle between the head and the flat face of the tail is approximately 155 degrees. The examiner notes that because this limitation was not part of the original disclosure, amending the specification to provide antecedent basis for the claim would be considered new matter. THIS IS A NEW MATTER REJECTION.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1,4,5,7,8,21,22,23, rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the rails" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the first flat surface of the tail" and "the second flat surface of the slot" in line 13. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1,7, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Navarre (USP-6,093,015).

Re clms 1,7: Navarre discloses a slide assembly comprising a(n):

- Base (52) removably mounted to a stationary die block (30)
- Slide (40) comprising a slot (42) having a first flat surface (46) and extending centrally through the slide at an angle oblique to the rails (top surface of 52 and bottom surface of 56)

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- Cam lever (64) mountable to a movable die block (16) comprising a head (60) and a tail (18) having a second flat surface (22), wherein the cam lever extends through the base (52)

11. Claims 1,16,21, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Horbach (USP-3,932,085).

Re clms 1,16: Horbach discloses a slide assembly comprising a(n):

- Stationary die block (above part line P.L., see Figs 2 &3)
- Base (18) removably mounted to the stationary die block (C3 L68-C4 L1-3)
- Slide (14,16,32)
- Slot (32a) having a first flat surface extending centrally through the slide at an angle oblique (see right side of Figure 2) to the rails (34)
- Movable die block (42)
- Cam lever (36) insertable into the slide and having a head secured to the moveable die block (see Figure 2) and a tail having a second flat surface extending from the head at the oblique angle (see right side of Figure 2), wherein the cam lever is adapted to move the slide relative to the base through cam action

Re clm 21: Horbach discloses a tail of the cam lever (36) having a quadrangular cross section (see Figure 2).

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Navarre (USP-6,093,015) in view of Starkey (USP-6,116,891).

Re clm 5: Navarre discloses all of the claimed subject matter as described above.

Navarre does not disclose a first circuit and second circuit coupled to the base, wherein the first circuit is adapted to provide signals to limit the movement of the slide relative to the base in the first direction, and wherein the second circuit is adapted to provide signals to limit the movement of the slide relative to the base in a second direction.

Starkey teaches the use of a first circuit (126,128) that is adapted to provide signals to limit the movement of the slide relative to the base in a first direction, and a second circuit (140,126) that is adapted to provide signals to limit the movement of the slide relative to the base in a second direction for the purpose of detecting when the slide carrier has been fully retracted (C11 L11-47).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have employed a first circuit that is adapted to provide signals to limit the movement of the slide relative to the base in the first direction, and a



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second circuit that is adapted to provide signals to limit the movement of the slide relative to the base in a second direction in the device of Navarre, as taught by Starkey, for the purpose of detecting when the slide carrier has been fully retracted (C11 L11-47).

14. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Navarre (USP-6,093,015) in view of Bishenden (USP-5701947).

Navarre discloses all of the claim limitations as described above.

Navarre does not disclose a hydraulic coupling connected to the slide for retaining position of the slide relative to the first/stationary die block.

Bishenden teaches a hydraulic coupling (53) connected to the slide (32) for the purpose of moving the slide and core insert towards and away from the mold cavity (C3 lines 48-64).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to employ a hydraulic coupling connected to the slide for retaining position of the slide relative to the first/stationary die block in the device of Navarre, as taught by Bishenden, for the purpose of moving the slide and core insert towards and away from the mold cavity (C3 lines 48-64).

15. Claims 4,9,14,16,18,20-23,25,26, are rejected under 35 U.S.C. 103(a) as being unpatentable over Navarre (USP-6,093,015) in view of Nakamura et al. (USP-4,889,480) in view of Boskovic (USP-4,515,342)

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Re clms 9,14,16,18,22,23,26: Navarre discloses a slide assembly comprising

a(n):

- First stationary die block half (30)
- Moveable second die block half (16)
- Base (52) removably mountable to the stationary die block
- Slide (40) having a slot (42) having a first flat surface (46) and extending centrally through the slide at an angle oblique to the rails (top surface of 52 and bottom surface of 56)
- Cam lever (64) mountable to a movable die block (16) comprising a head (60) and a tail (18) having a second flat surface (22), wherein the cam lever extends through the base (52), wherein the cam lever is adapted to move the slide (40) relative to the base (52) through cam action

Navarre discloses all of the claim limitations as described above.

Navarre does not disclose the base comprising a pair of inward facing tracks and the slide having a pair of outward facing rails adapted to engage the tracks of the base.

Nakamura discloses a base (1) having a pair of inward facing tracks (7) and a slide (42) having a pair of outward facing rails (Figure 3) adapted to engage the tracks of the base for the purpose of slidably mounting the slider block to the base (1).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have employed a base comprising a pair of inward facing tracks and a slide having a pair of outward facing rails adapted to engage the tracks of

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the base in the device of Navarre, as taught by Nakamura, for the purpose of slidably mounting the slider block to the base.

Navarre does not disclose a face plate attached to the slide for receiving a core pattern.

Boskovic teaches a face plate (left side of 18, Figures 1 & 2) attached to the slide for receiving a core pattern for the purpose of carrying a core element that enters the mold cavity (C3, lines 11-13).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have employed a face plate attached to the slide for receiving a core pattern in the device of Navarre, as taught by Boskovic, for the purpose of carrying a core element that enters the mold cavity (C3, lines 11-13).

Re clms 21,25: Navarre discloses the tail of the cam lever comprises a quadrangular cross section (Figure 2).

Re clms 4,20: Navarre discloses a cam lever (64) which comprises an oblique angle between the head (60) and the tail (18), but does not explicitly disclose an angle greater than 130 degrees and less than 160 degrees.

Since the applicant is silent with respect to any criticality or unexpected results resulting from having an obtuse angle between the head and the tail of greater than 130 degrees and less than 160 degrees, such an arrangement would have been an obvious matter of design choice to one of ordinary skill in the art, as it appears that the device of Navarre would function equally well at any angle within the specified range.

16. Claims 1,7,9,14,16,18,22,23,26, are rejected under 35 U.S.C. 103(a) as being unpatentable over Boskovic (USP-4,515,342) in view of Horbach (USP-3,932,085).

Re clms 1,7,9,14,16,18,22,23,26: Boskovic discloses a slide assembly comprising a(n):

- First stationary die block half (12)
- Moveable second die block half (14)
- Base (near 26, Figure 2) mountable to the stationary die block having a pair of inward facing tracks (59)
- Slide (16) having a slot (26) having a first flat surface (26) and a pair of outward facing rails engaging the tracks of the base (See Figure 5)
- Cam lever (24) mountable to the moveable die block having a head secured to the moveable die block and a tail extending through the base, wherein the cam lever is adapted to move the slide (16) relative to the base through cam action
- Face plate (left side of 18, Figures 1 & 2) attached to the slide for receiving a core pattern (18)

Boskovic discloses all of the claim subject matter as described above.

Boskovic does not disclose that the cam lever has a flat face positioned at an angle with the head.

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Horbach teaches a cam lever (36) having a flat face positioned at an angle to the head (See Figure 2) for the purpose of pulling the slide in an outward direction (C5 L35-38 & C6 L64-68).

It would have been obvious to a person of ordinary skill in the art to modify the cam lever of Boskovic, as taught by Horbach, for the purpose of pulling the slide in an outward direction (C5 L35-38 & C6 L58-68).

Boskovic discloses all of the claim subject matter as described above.

Boskovic does not disclose that the slot has a flat surface at an angle oblique to the rails.

Horbach teaches a slot (32a) having a flat surface (32s) that is at an angle oblique to the rails (34) for the purpose of contacting the surface of the cam lever so as to pull the slide outwardly (C6 L58-68).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have employed a slot having a flat surface at an angle oblique to the rails, as taught by Horbach, for the purpose of contacting the surface of the cam lever so as to pull the slide outwardly (C6 L58-68).

17. Claims 12, 17, are rejected under 35 U.S.C. 103(a) as being unpatentable over Navarre (USP-6,093,015) in view of Nakamura et al. (USP-4,889,480) in view of Boskovic (USP-4,515,342) further in view of Bishenden (USP-5701947).

Re clms 12,17: Navarre in view of Nakamura and Boskovic disclose all of the claim subject matter as described above.

Navarre does not disclose a hydraulic coupling connected to the slide for retaining position of the slide relative to the first/stationary die block.

Bishenden teaches a hydraulic coupling (53) connected to the slide (32) for the purpose of moving the slide and core insert towards and away from the mold cavity (C3 lines 48-64).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to employ a hydraulic coupling connected to the slide for retaining position of the slide relative to the first/stationary die block, as taught by Bishenden, in the device of Navarre for the purpose of moving the slide and core insert towards and away from the mold cavity (C3 lines 48-64).

18. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boskovic (USP-4,515,342) in view of Horbach (USP-3,932,085) further in view of Starkey (USP-6,116,891).

Re clm 13: Boskovic in view of Horbach disclose all of the claimed subject matter as described above.

Boskovic does not disclose a first circuit and second circuit coupled to the base, wherein the first circuit is adapted to provide signals to limit the movement of the slide relative to the base in the first direction, and wherein the second circuit is adapted to

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provide signals to limit the movement of the slide relative to the base in a second direction.

Starkey teaches the use of a first circuit (126,128) that is adapted to provide signals to limit the movement of the slide relative to the base in the first direction, and a second circuit (140,126) that is adapted to provide signals to limit the movement of the slide relative to the base in a second direction for the purpose of detecting when the slide carrier has been fully retracted (C11 L11-47).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have employed a first circuit that is adapted to provide signals to limit the movement of the slide relative to the base in the first direction, and a second circuit that is adapted to provide signals to limit the movement of the slide relative to the base in a second direction, as taught by Starkey, in the device of Boskovic for the purpose of detecting when the slide carrier has been fully retracted (C11 L11-47).

### ***Response to Arguments***

19. Applicant's arguments with respect to claims 1,9,16 have been considered but are moot in view of the new ground(s) of rejection.

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Johnson whose telephone number is 571-272-7944. The examiner can normally be reached on Monday - Friday 8:30a.m. - 5:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.




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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJ

MJ 4/2/2007



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